



 <p> <b>PREPARED BY</b>            ICON Environmental Services, Inc.            2049 Commercial Drive            Port Allen, LA 70767         </p>	<p> <b>PREPARED FOR</b>            Talbot, Carmouche, Marcello Law Firm            17405 Perkins Rd            Baton Rouge, LA 70810         </p>	<p> <b>SOIL SAR AT 0.4 FT DEPTH INCREMENT</b>            Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA            St. Gabriel Oil Field, Ascension and Iberville Parishes, LA         </p>
		<p>           Jan 2014            SCALE: 1" = 100'         </p>
		<p> <b>FIGURE 26</b> </p>



MARCH 1978

<p>DATE: Jan 2014          SCALE: 1" = 100'</p>	<p>FIGURE 27</p>
<p>SOIL PETROLEUM HYDROCARBONS AND HEAVY METALS          Spanish Lake Restoration LLC v Shell Oil Company, et al, 18th JDC, Docket #69702, Div "D", Iberville Parish, LA          St. Gabriel Oil Field, Ascension and Iberville Parishes, LA</p>	<p>PREPARED BY:  <b>ICON</b> Environmental Services, Inc.          2049 Commercial Drive          Port Allen, LA 70767</p> <p>PREPARED FOR:          Talbot, Carmouche, Marcello Law Firm          17405 Perkins Rd          Baton Rouge, LA 70810</p>





 <p> <b>ICON</b> Environmental Services, Inc.          2049 Commercial Drive          Port Allen, LA 70767       </p>	PREPARED BY: Talbot Carmouche, Marcello Law Firm 17405 Perkins Rd Baton Rouge, LA 70810	SOIL EC AT 4-8 FT DEPTH INCREMENT Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA St. Gabriel Oil Field, Ascension and Iberville Parishes, LA	Jan 2014 FIGURE 28
	PREPARED FOR:		



MARCH 1978

<p>PREPARED BY:  <b>ICON</b> Environmental Services, Inc.          2049 Commercial Drive          Port Allen, LA 70767</p>	<p>PREPARED FOR:          Talbot, Carmouche, Marcello Law Firm          17405 Perkins Rd          Baton Rouge, LA 70810</p>	<p>SOIL ESP AT 4-8 FT DEPTH INCREMENT          Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #68702; Div "D"; Iberville Parish, LA          St. Gabriel Oil Field, Ascension and Iberville Parishes, LA</p>	<p>FIGURE 29</p>
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MARCH 1978

<p>Prepared by:  <b>ICON</b>          ICON Environmental Services, Inc.          2049 Commercial Drive          Port Allen, LA 70767</p>	<p>Prepared for:          Talbot, Carmouche, Marcello Law Firm          17405 Perkins Rd          Baton Rouge, LA 70810</p>	<p>SOIL SAR AT 4-8 FT DEPTH INCREMENT          Spanish Lake Restoration LLC v Shell Oil Company, et al, 18th JDC, Docket #69702; Div "D", Iberville Parish, LA          St. Gabriel Oil Field, Ascension and Iberville Parishes, LA</p>
<p>FIGURE 30</p>	<p>Jan 2014</p>	<p>FIGURE 30</p>







MARCH 1978

DATE	Jan 2014
TIME	10:00 AM
BY	St. Gabriel Oil Field, Ascension and Iberville Parishes, LA

PREPARED FOR:  
Talbot, Carmouche, Marcello Law Firm  
17405 Perkins Rd  
Baton Rouge, LA 70810

PREPARED BY:  
ICON Environmental Services, Inc.  
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Port Allen, LA 70767



Spanish Lake Restoration LLC v Shell Oil Company, et al, 18th JDC, Docket #69702; Div TD; Iberville Parish, LA  
St. Gabriel Oil Field, Ascension and Iberville Parishes, LA



	<p>PREPARED BY:</p> <p>ICON Environmental Services, Inc.</p> <p>2049 Commercial Drive</p> <p>Port Allen, LA 70767</p>	<p>PREPARED FOR:</p> <p>Talbot, Carmouche, Marcello Law Firm</p> <p>17405 Perkins Rd</p> <p>Baton Rouge, LA 70810</p>	<p>SOIL SAR AT 8-12 FT DEPTH INCREMENT</p> <p>Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA</p> <p>SL Gabriel Oil Field, Ascension and Iberville Parishes, LA</p>	<p>FIGURE 33</p>
	<p>Jan 2014</p>	<p>FIGURE 33</p>	<p>FIGURE 33</p>	<p>FIGURE 33</p>





MARCH 1978

DATE	Jan 2014
FIGURE	FIGURE 34

SOIL CONTAMINATION BY ALL CONSTITUENTS AT 0-4 FT DEPTH INCREMENT  
 Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA  
 St. Gabriel Oil Field, Ascension and Iberville Parishes, LA

PREPARED FOR:  
 Talbot, Carmouche, Marcello Law Firm  
 17405 Perkins Rd  
 Baton Rouge, LA 70810

PREPARED BY:  
 ICON Environmental Services, Inc.  
 2049 Commercial Drive  
 Port Allen, LA 70767






MARCH 1978

 <p> <b>ICON</b>          Environmental Services, Inc.          2049 Commercial Drive          Port Allen, LA 70767       </p>	PREPARED BY Talbot, Carmouche, Marcello Law Firm 17405 Perkins Rd Baton Rouge, LA 70810	SOIL CONTAMINATION BY ALL CONSTITUENTS AT 4-8 FT DEPTH INCREMENT Spanish Lake Restoration LLC v Shell Oil Company, et al, 18th JDC, Docket #69702, Div "D", Iberville Parish, LA St. Gabriel Oil Field, Ascension and Iberville Parishes, LA
	PREPARED FOR Talbot, Carmouche, Marcello Law Firm 17405 Perkins Rd Baton Rouge, LA 70810	FIGURE 35





	PREPARED BY: <b>ICON Environmental Services, Inc.</b> 2049 Commercial Drive Port Allen, LA 70767	PREPARED FOR: <b>Talbot, Carmouche, Marzello Law Firm</b> 17405 Perkins Rd Baton Rouge, LA 70810	PROJECT NO.: DATE: Jan 2014 DRAWN BY:	FIGURE 36
	<p align="center"> <b>SOIL CONTAMINATION BY ALL CONSTITUENTS AT 8-12 FT DEPTH INCREMENT</b>          Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #68702; Div "D"; Iberville Parish, LA          St. Gabriel Oil Field, Ascension and Iberville Parishes, LA       </p>			



MARCH 1978

DATE	1978
TIME	10:00
BY	Jan 2014
FIGURE	FIGURE 37

SOIL EC AT 12-16 FT DEPTH INCREMENT  
 Spanish Lake Restoration LLC v Shell Oil Company, et al: 18th JDC, Docket #69702, Div "D", Iberville Parish, LA  
 St. Gabriel Oil Field, Ascension and Iberville Parishes, LA

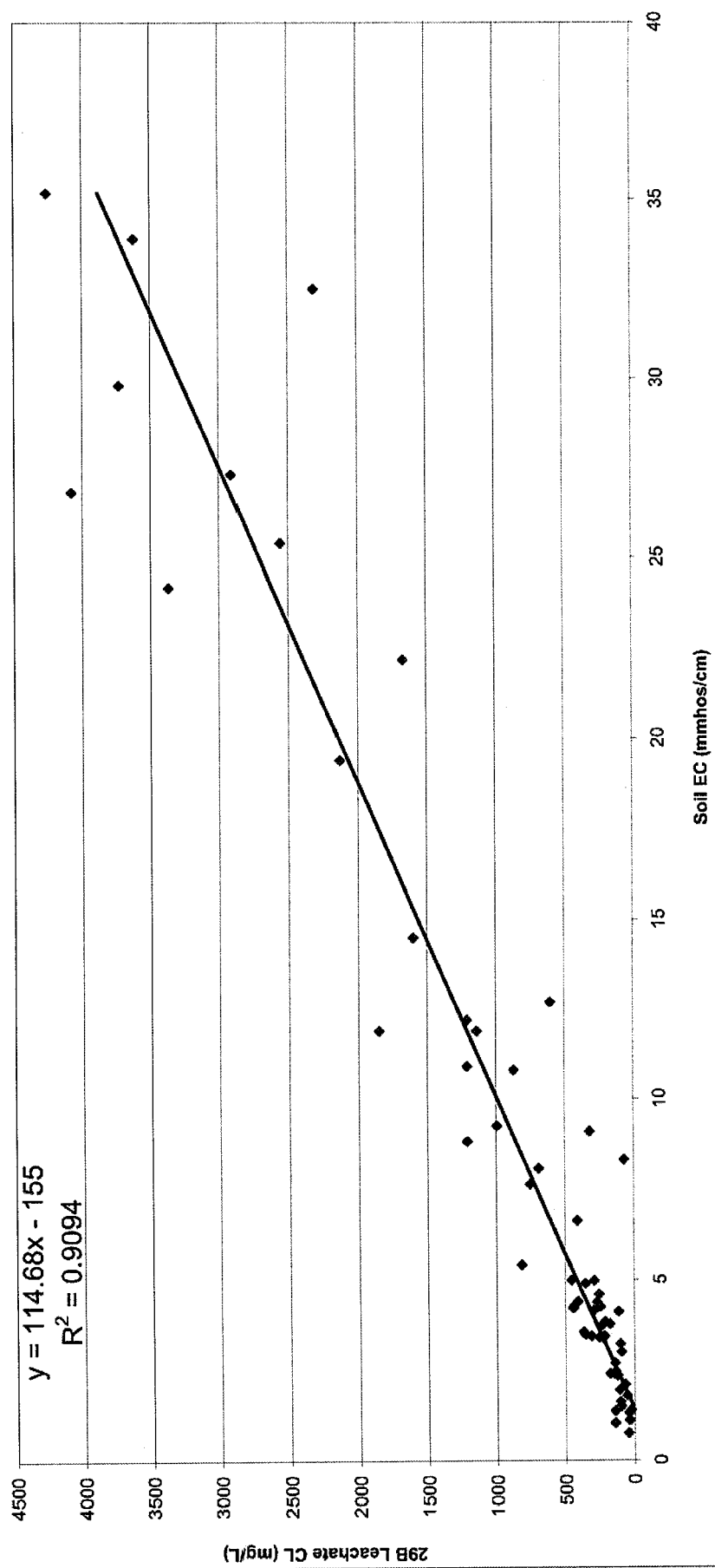
PREPARED FOR  
 Talbot, Carmouche, Marcello Law Firm  
 17405 Perkins Rd  
 Baton Rouge, LA 70810

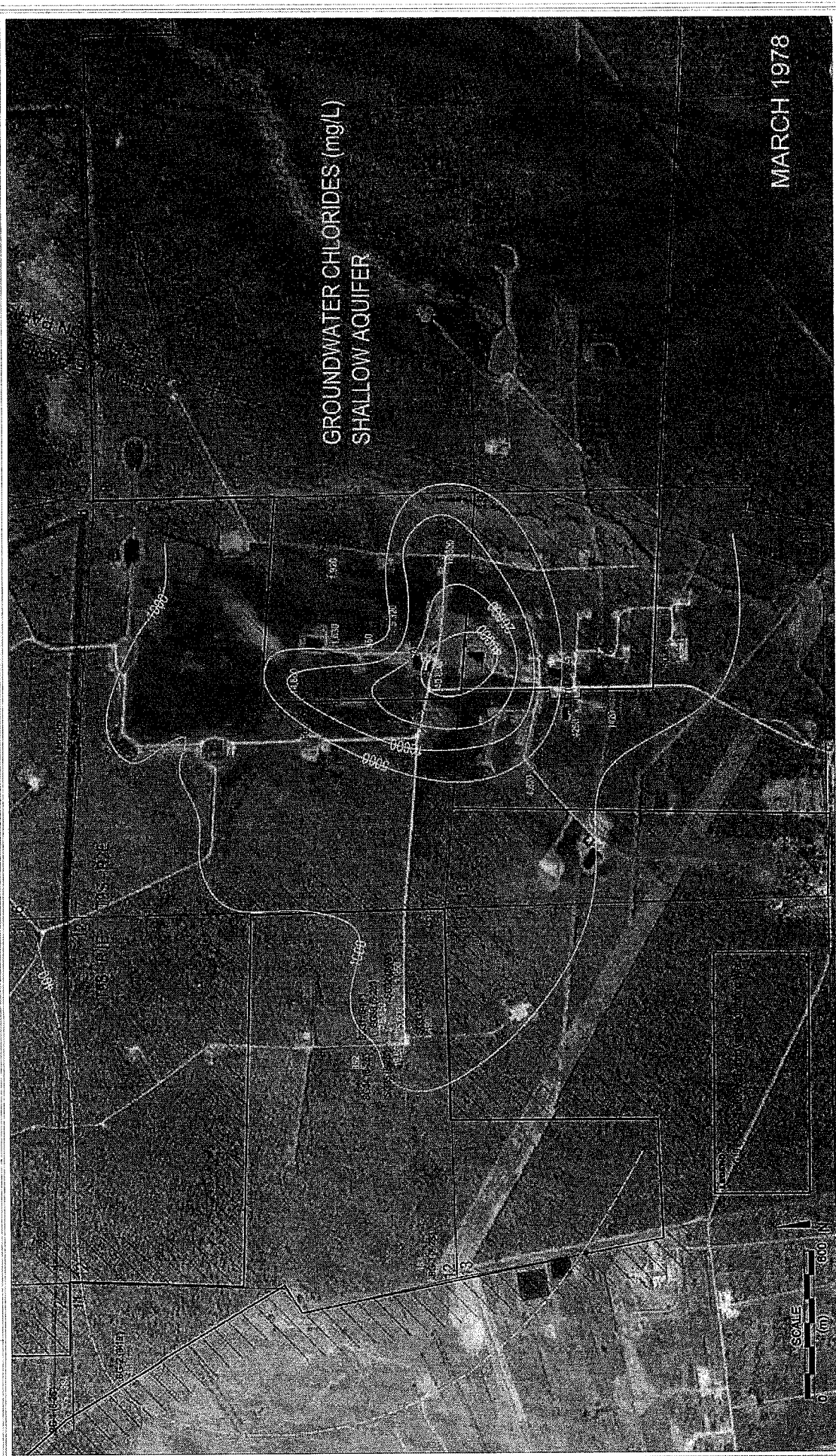
PREPARED BY  
 ICON Environmental Services, Inc.  
 2049 Commercial Drive  
 Port Allen, LA 70767





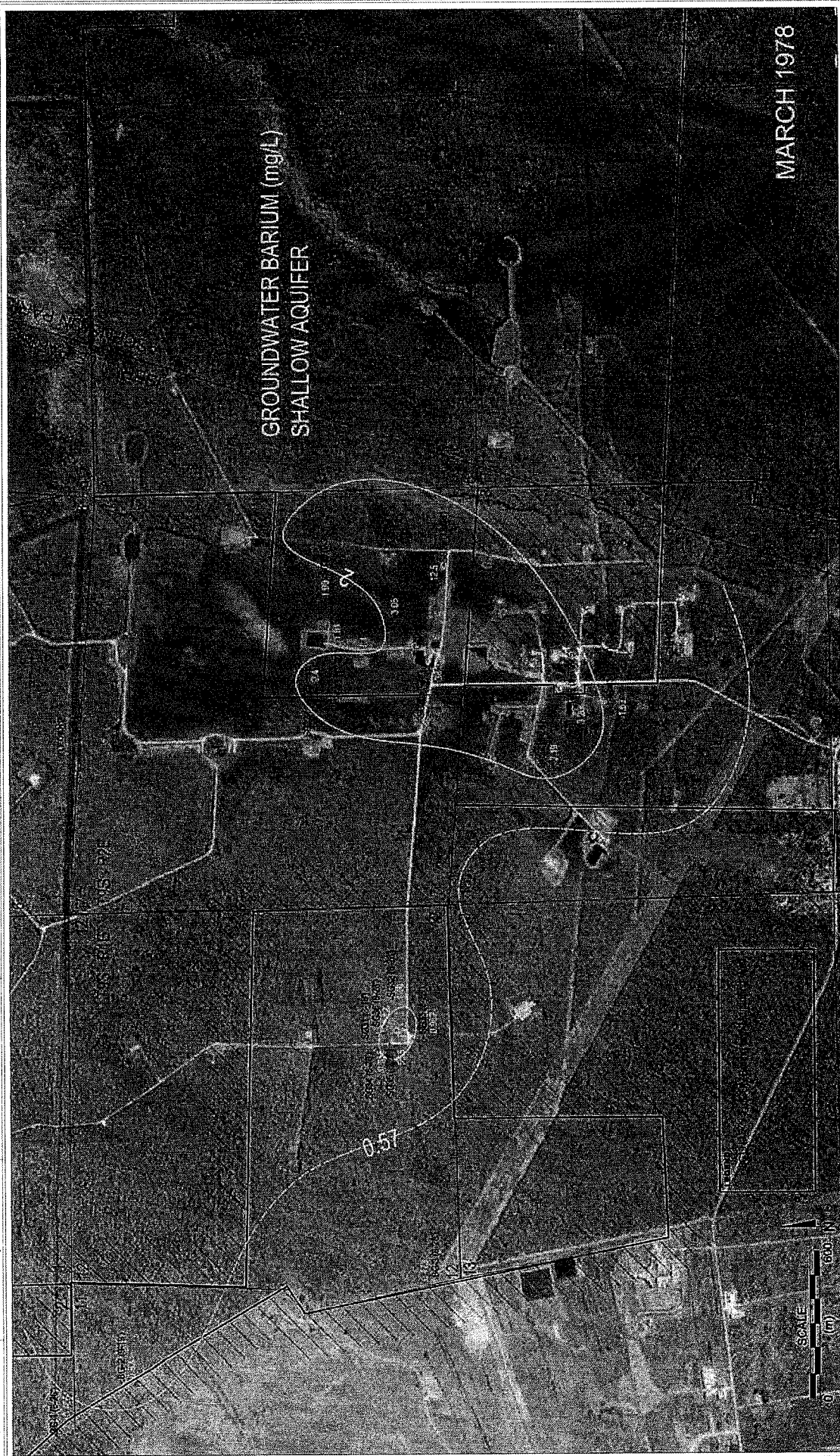
FIGURE 46 Soil EC v 29B Leachate CL (St. Gabriel Oil Field)





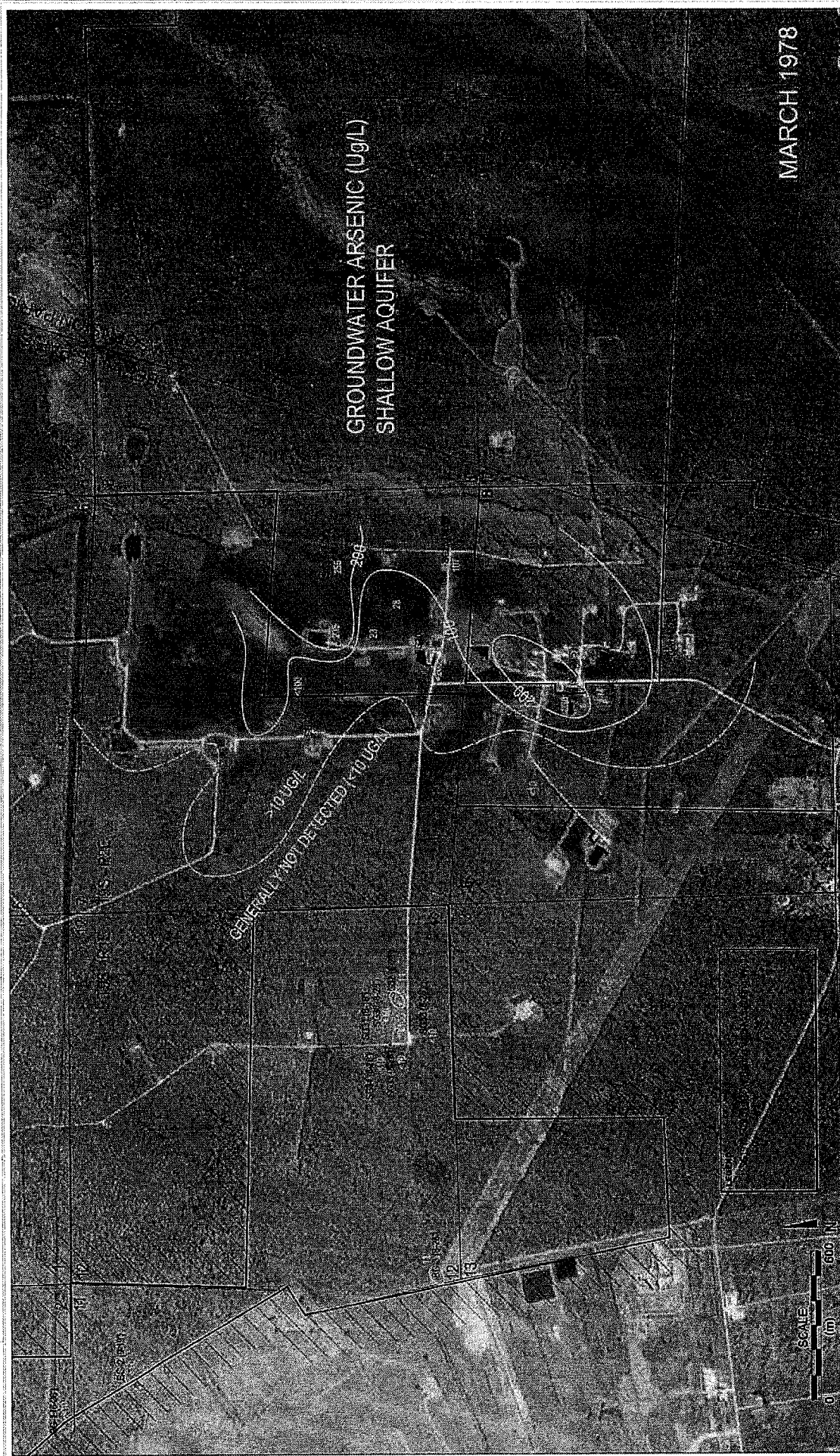
<p>PREPARED BY:</p> <p><b>ICON</b></p> <p>ICON Environmental Services, Inc.</p> <p>2048 Commercial Drive</p> <p>Port Allen, LA 70767</p>	<p>PREPARED FOR:</p> <p>Talbot, Carmouche, Marcello Law Firm</p> <p>17405 Perkins Rd</p> <p>Baton Rouge, LA 70810</p>	<p>GROUNDWATER CHLORIDES IN SHALLOW AQUIFER (MG/L)</p> <p>Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA</p> <p>St. Gabriel Oil Field, Ascension and Iberville Parishes, LA</p>	<p>FIGURE 47</p> <p>Jan 2014</p> <p>FIG 47</p>
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MARCH 1978

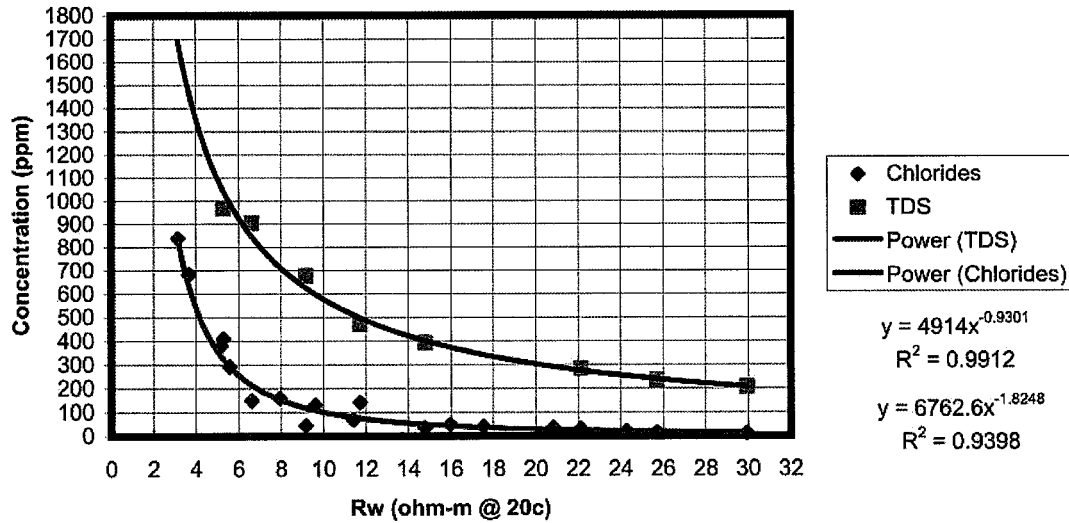
<p><b>PREPARED BY:</b>  <b>ICON Environmental Services, Inc.</b>          2049 Commercial Drive          Port Allen, LA 70767</p>	<p><b>PREPARED FOR:</b>          Talbot, Carmouche, Marcello Law Firm          17405 Perkins Rd          Baton Rouge, LA 70810</p>	<p><b>GROUNDWATER BARIUM IN SHALLOW AQUIFER (MGL)</b>          Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA          St. Gabriel Oil Field, Ascension and Iberville Parishes, LA</p>	<p>DATE: Jan 2014</p>
			<p>FIGURE 48</p>



<p>  </p>	<p> <b>PREPARED BY:</b>            ICON Environmental Services, Inc.            2049 Commercial Drive            Port Allen, LA 70767         </p>	<p> <b>PREPARED FOR:</b>            Talbot, Carmouche, Marcello Law Firm            17405 Perkins Rd            Baton Rouge, LA 70810         </p>	<p> <b>GROUNDWATER ARSENIC IN SHALLOW AQUIFER (UG/L)</b>            Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #89702; Div "D"; Iberville Parish, LA            St. Gabriel Oil Field, Ascension and Iberville Parishes, LA         </p>
			<p> <b>FIGURE 49</b>            Jan 2014            1 of 1         </p>



**FIGURE 50**  
**Rw : TDS/CL IN MRVA AQUIFER - ST. GABRIEL FIELD AREA**

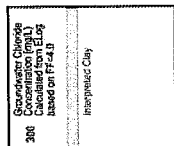


DATA USED TO CONSTRUCT PLOT (Water Resources Technical Bulletin 16, LGS, 1972).

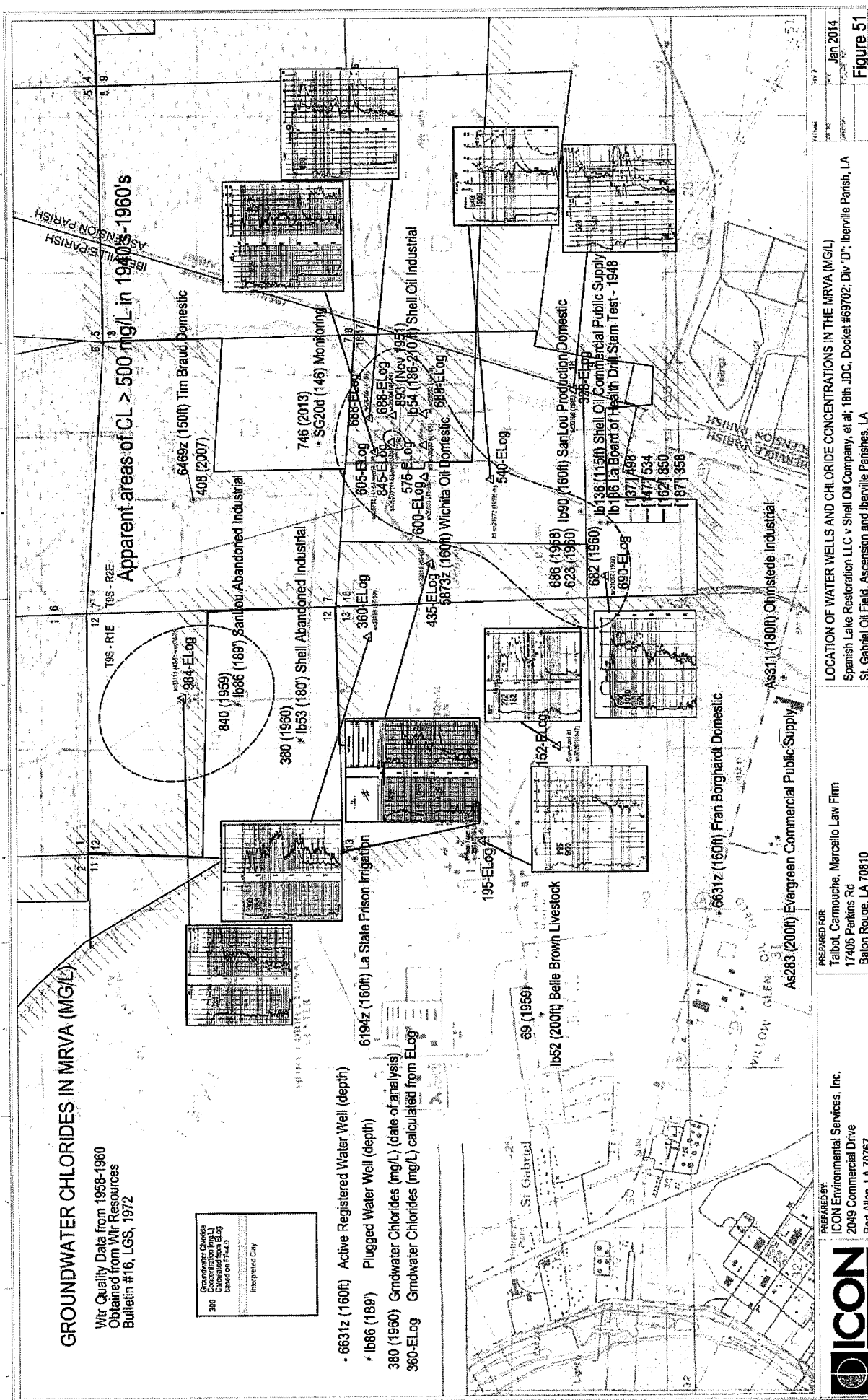
WELL	Depth	TEMP	SPEC	CALCULATED		CHLORIDE	TDS
				RW (ohm-m)			
Ib28	197	69	853	11.72		142	469
Ib51	185	70	412	24.27		20	
Ib52	200	70	877	11.40		69	
Ib88	190	70	676	14.79		34	393
Ib53	180	68	1930	5.18		380	
Ib86	185	69	3180	3.14		840	
Ib90	160	70	2730	3.66		686	
Ib110	175	68	1790	5.59		292	
Ib111	186	68	1260	7.94		160	
Ib136	115	68	2730	3.66		682	
Ib201a	198	68	1890	5.29		410	967
Ib201b	135	68	1510	6.62		150	906
Ib202a	120	68	1090	9.17		44	677
Ib203b	174	68	480	20.83		36	
Ib204b	177	68	1040	9.62		131	
Ib214	216	68	452	22.12		31	284
Ib221	230	68	570	17.54		41	
Eb716	145	68	626	15.97		49	
Eb256	220	69	334	29.94		12	208
Eb257	220	69	389	25.71		15	235

Wtr Quality Data from 1958-1960  
Obtained from Wtr Resources  
Bulletin #16, LGS, 1972

Wtr Quality Data from 1958-1960  
Obtained from Wtr Resources  
Bulletin #16, LGS, 1972



- 6631z (160ft) Active Registered Water Well (depth)  
 • lb86 (189') Plugged Water Well (depth)  
 380 (1960) Gndwater Chlorides (mg/L) (date of analysis)  
 360-Elag Gndwater Chlorides (mg/L) calculated from



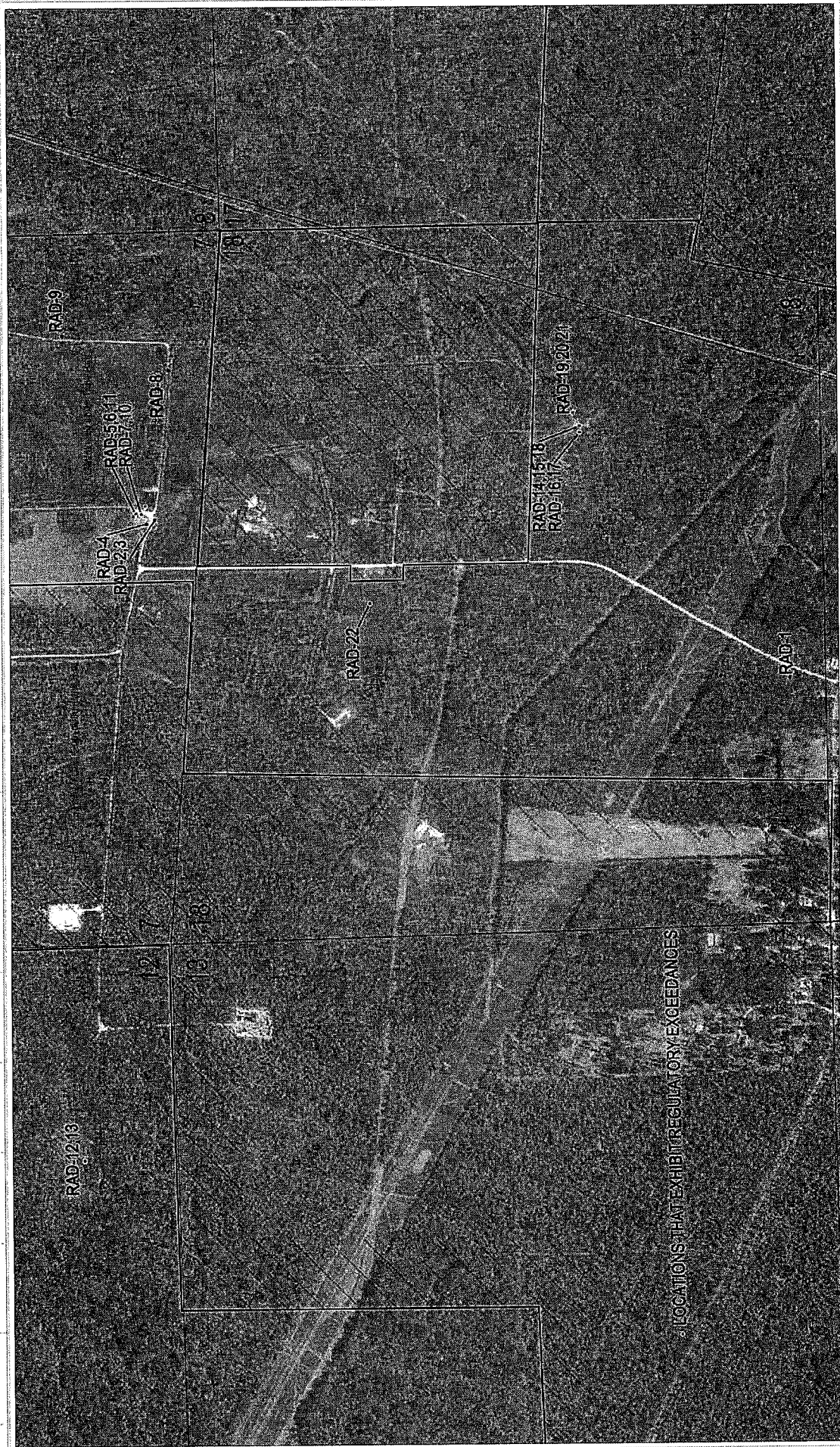
**PREPARED FOR:**  
**Talbot, Camm**  
**17405 Perkin**  
**Baton Rouge**

**PREPARED FOR**  
**Talbot, Carmouche, Marcello Law Firm**  
**17405 Perkins Rd**  
**Baton Rouge, LA 70810**

LOCATION OF WATER WELLS AND CHLORIDE CONCENTRATIONS IN THE MRVA (MGL)  
Spanish Lake Restoration LLC v. Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA  
St. Gabriel Oil Field, Ascension and Iberville Parishes, LA

**Figure 51**





**PREPARED BY:**  
**ICON Environmental Services, Inc.**  
 2049 Commercial Drive  
 Port Allen, LA 70767

**PREPARED FOR:**  
 Talbot, Carmouche, Marcello Law Firm  
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 Baton Rouge, LA 70810

**LOCATIONS OF NORM SOIL SAMPLES AND REGULATORY EXCEEDANCES**  
 Spanish Lake Restoration LLC v Shall Oil Company, et al; 18th JDC, Docket #89702; Div "D"; Iberville Parish, LA  
 St. Gabriel Oil Field, Ascension and Iberville Parishes, LA

**FIGURE 52**  
 Jan 2014



<p>PREPARED BY:  <b>ICON</b>          ICON Environmental Services, Inc.          2049 Commercial Drive          Port Allen, LA 70767</p>	<p>PREPARED FOR:          Tabbot, Camrouche, Marcello Law Firm          17405 Perkins Rd          Baton Rouge, LA 70810</p>	<p>SOIL EC AT 20-28 FT DEPTH INCREMENT          Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702, Div 'D'; Iberville Parish, LA          St. Gabriel Oil Field, Ascension and Iberville Parishes, LA</p>	<p>DATE: Jan 2014          SHEET: 39          FIGURE 39</p>
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MARCH 1978

Project	Div 7
Drawn	Jan 2014
Scale	1" = 100'
Figure	FIGURE 40

SOIL EC AT 28-36 FT DEPTH INCREMENT  
 Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA  
 St. Gabriel Oil Field, Ascension and Iberville Parishes, LA

PREPARED FOR:  
 Talbot, Carmouche, Marcello Law Firm  
 17405 Perkins Rd  
 Baton Rouge, LA 70810

PREPARED BY:  
 ICON Environmental Services, Inc.  
 2049 Commercial Drive  
 Port Allen, LA 70767





	PREPARED BY: ICON Environmental Services, Inc. 2049 Commercial Drive Port Allen, LA 70767	PREPARED FOR: Talbot, Carmouche, Marcello Law Firm 17405 Perkins Rd Baton Rouge, LA 70810	SOIL EC AT 36-44 FT DEPTH INCREMENT Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA St. Gabriel Oil Field, Ascension and Iberville Parishes, LA	DATE: Jan 2014 DRAWN BY: [blank] FIGURE #1: FIGURE 41
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MARCH 1978

DATE	10/27/14
BY	Jan 2014
FIGURE	FIGURE 42

SOIL EC AT 44-52 FT DEPTH INCREMENT  
 Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA  
 St. Gabriel Oil Field, Ascension and Iberville Parishes, LA

PREPARED FOR:  
 Talbot Carmouche, Marcello Law Firm  
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 Baton Rouge, LA 70810

PREPARED BY:  
 ICON Environmental Services, Inc.  
 2049 Commercial Drive  
 Port Allen, LA 70767







MARCH 1978

DATE	Jan 2014
FIGURE	FIGURE 43

SOIL EC AT 52-60 FT DEPTH INCREMENT  
 Spanish Lake Restoration LLC v Shell Oil Company, et al; 18th JDC, Docket #69702; Div "D"; Iberville Parish, LA  
 St. Gabriel Oil Field, Ascension and Iberville Parishes, LA

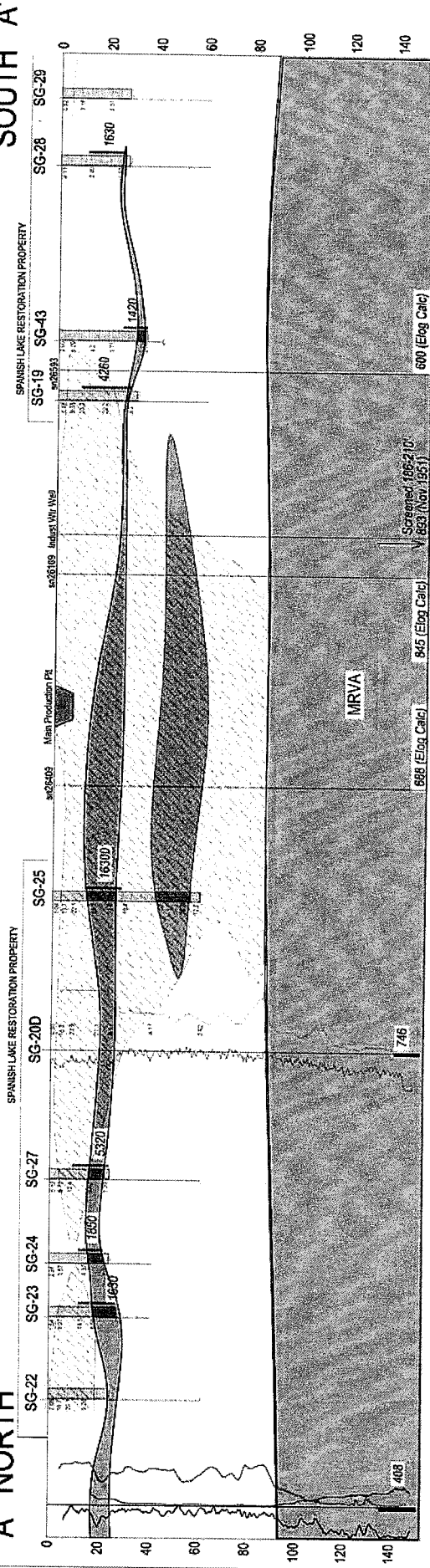
PREPARED FOR:  
 Talbot Carmouche, Marcello Law Firm  
 17405 Perkins Rd  
 Baton Rouge, LA 70810

PREPARED BY:  
 ICON Environmental Services, Inc.  
 2049 Commercial Drive  
 Port Allen, LA 70767



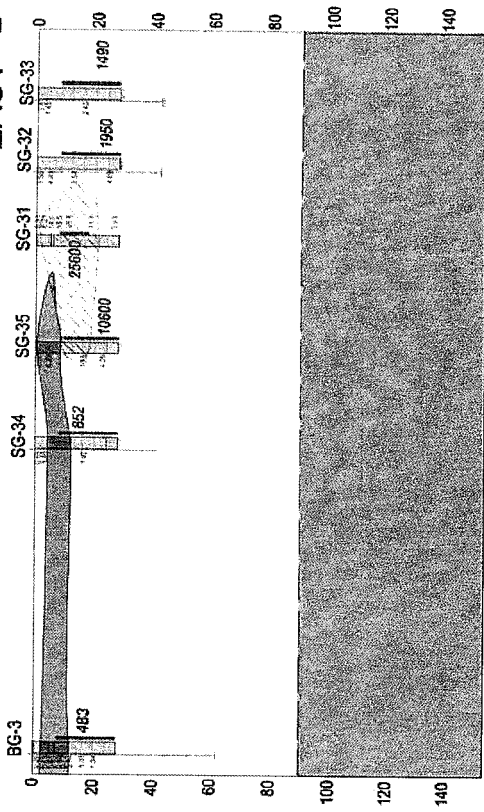
A NORTH

SOUTH A'



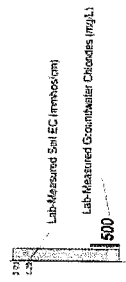
B WEST

EAST B'

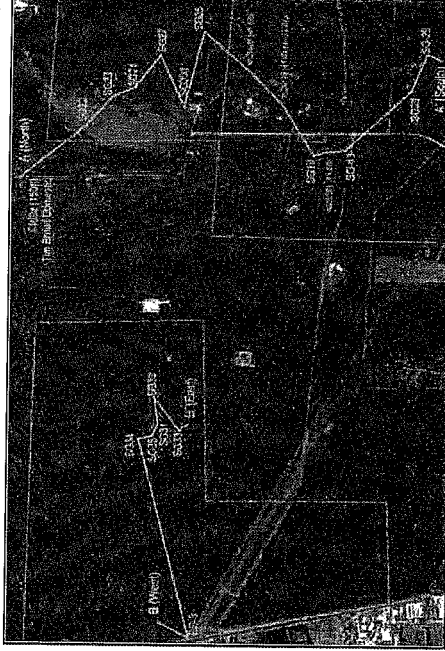


LEGEND

- Shallow GW3 Aquifer
- MRVA GW1 Aquifer (USDW)
- Soil Exceeds EC of 8 mhos/cm



HORIZONTAL SCALE



PREPARED BY:  
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Port Allen, LA 70767

PREPARED FOR:  
Talbot, Carmouche, Marcello Law Firm  
17405 Parkins Rd  
Baton Rouge, LA 70810

CROSS SECTION DIAGRAMS DEPICTING SOIL EC AND GROUNDWATER CHLORIDES  
Spanish Lake Restoration LLC v Shell Oil Company, et al. 18th JDC, Docket #68702; Div "D", Iberville Parish, LA  
St. Gabriel Oil Field, Ascension and Iberville Parishes, LA

DATE: 1/15/14  
PAGE: 44

Figure 45 Soil EC v Conductivity Probe

